

REMARKS/ARGUMENTS

This Amendment is being filed in response to the Office Action mailed November 12, 2008, which has been reviewed and carefully considered. Reconsideration and allowance of the present application in view of the amendments made above and the remarks to follow are respectfully requested.

Claims 1-23 are pending in the application. Claim 24 is canceled without prejudice. Applicant reserves the right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

Claim 1 is independent and claims 17 and 23 have been placed in independent form to include all the recitations of claim 1.

By means of the present amendment, claims 1-23 are amended for non-statutory reasons, such as for better form including beginning the dependent claims with 'The' instead of 'A', and deleting reference numerals typically used in European practice that are known to not limit the scope of the claims. Such amendments to claims 1-23 were not made in order to address issues of patentability and Applicant respectfully reserves all rights under the Doctrine of Equivalents.

Applicant thanks the Examiner for acknowledging receipt and

consideration of an Information Disclosure Statement filed on September 18, 2007 separately and as part of the Information Disclosure Statement filed on September 29, 2005.

In the Office Action, the Abstract is objected to for not commencing on a separate sheet. In response, the current Abstract has been deleted and substituted with the enclosed New Abstract which commences on a separate sheet and conforms to U.S. practice. Accordingly, withdrawal of the objection to the Abstract is respectfully requested.

In the Office Action, claim 24 is rejected under 35 U.S.C. §112, second paragraph. This rejection is traversed, however, merely to advance consideration and allowance of the claims, claim 24 is canceled herein without prejudice. The cancellation of claim 24 renders moot this rejection with regard to claim 24.

In the Office Action, claims 1-4, 6-18 and 20-24 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,481,453 to O'Connor ("O'Connor"). Further, claims 1-2 and 4-5 are rejected under 35 U.S.C. §102(a) over U.S. Patent No. 6,540,896 to Manz ("Manz"). Claim 19 is rejected under 35 U.S.C. §103(a) over O'Connor. Claim 15 is rejected under 35 U.S.C. §103(a) over O'Connor in view of U.S. Patent No. 5,876,675 to Kennedy ("Kennedy"). It is

respectfully submitted that claims 1-23 are patentable over O'Connor and Manz individually, and in view of Kennedy for at least the following reasons.

O'Connor is directed to microfluidic devices and methods for metering discrete plugs of fluid. As pointed out by the Examiner, O'Connor describes plug formation at col. 13, lines 4-24. In particular, O'Connor describes plug formation stating (emphasis added) "[f]ollowing the flushing step, the pressure of the second fluid is increased to force the plugs of first fluid upward through the porous membrane 304 by way of the vias 317A-317N, 318A-318N into the channels 320A-320N located in the sixth layer 306. (See col. 13, lines 14-18). As should be clear from a simple inspection of FIG. 4A, the porous membrane 304 is common to each of the vias 317A-317N.

Accordingly, it is respectfully submitted that the Office Action incorrectly equated the porous membrane 304 shown in Figure 4a of O'Connor, i.e., one membrane overlaying or separating channels 314 from channels 320, to the "at least one individual threshold provided in each of said plurality of sample channels" as now recited in claim 1.

Further, O'Connor is clear that (emphasis added) "[e]ach

branch channel is filled, directly from the trunk channel, to each fluidic impedance region with a portion of the first fluid volume. A second fluid is used to flush the remaining portion of the first fluid from the trunk channel through the fluidic outlet while each branch channel remains substantially filled." (See, O'Connor, FIG. 1B, and Col. 4, lines 1-6.) In fact, O'Connor teaches that the (emphasis added) "[t]he amount of sample now ready for further analysis is defined by the volume of channel 139 between the second and third impedances 144,145." (See, O'Connor, Col. 9, lines 19-22.) "Once the air in channel 140 has been compressed sufficiently to build up enough pressure, the second impedance 145 is overcome. The sample now enters chamber 141 and fills the entire chamber up to three fourth impedances 146A-146C. Once this chamber 141 has been completely filled, the fourth impedances 146A-146C are overcome and the samples can now be exported off the device for further analysis. (See, O'Connor, Col. 9, lines 26-33, emphasis added.)

In fact, O'Connor is specifically directed to (emphasis added) "a need for metering devices and methods capable of consistently metering fluids in microfluidic volumes while minimizing the need to accommodate variations in fluid flow and material properties"

(See, O'Connor, Col. 3, lines 55-58) and as such, utilizes the size of a collection channel/chamber, to closely control the volume of a sample fluid.

Similarly regarding FIG. 4b utilized by the Office Action in rejecting the claims, O'Connor makes clear that (emphasis added) "[f]rom the trunk channel 313, the first fluid fills all of the branch channels 314A-314N before any surplus first fluid exits the device 300 by way of via 316 through the outlet port 311 ... The volume of each of the plugs is approximately equal to the volume of each branch channel 314A-314N." (See, O'Connor, Col. 13, lines 1-4 and lines 12-14.)

Manz is also directed to microfluidic devices. However, the Office Action fails to us Manz to reject claims 13, 17, 19, and 23, directed to formation of independent sample plugs as well as claims 9-12 and 18, directed to the arrangement of thresholds in the sample channels. This failure is taken as admission that Manz does not anticipate the subject matter of these claims, which has been independently verified by the Applicant through a thorough examination of Manz.

It is respectfully submitted that the fluidic device for producing consecutive series of plurality of independent sample

plugs of claim 1 is not anticipated or made obvious by the teachings of O'Connor and Manz. For example, O'Connor and Manz does not disclose or suggest, a fluidic device that amongst other patentable elements, comprises (illustrative emphasis added) "at least one individual threshold provided in each of said plurality of sample channels, wherein the flush fluid control means is operated to simultaneously produce consecutively arranged series of independent sample plugs in each of the plurality of sample channels" as recited in claim 1, and as similarly recited in each of claims 17 and 23.

These features are nowhere taught or suggested in O'Connor and Manz, alone or in combination. Kennedy is cited to allegedly show other features and does not remedy the discussed deficiencies in O'Connor and Manz.

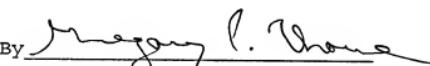
Based on the foregoing, the Applicant respectfully submits that independent claims 1, 17 and 23 are patentable over O'Connor and Manz and notice to this effect is earnestly solicited. Claims 2-16 and 18-22 respectively depend from one of claims 1 and 17, and accordingly are allowable for at least this reason as well as for the separately patentable elements contained in each of the claims. Accordingly, separate consideration of each of the dependent claims

is respectfully requested.

In addition, Applicant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicant reserves the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

Applicant has made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited.

Respectfully submitted,

By 

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